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**Clinical use of proteasome inhibitors in the treatment of multiple myeloma.**

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**Public Summary:**

Multiple myeloma (MM) is an incurable hematological malignancy characterized by the clonal proliferation of neoplastic plasma cells. The use of proteasome inhibitors in the treatment of MM has led to significant improvements in outcomes. This article reviews data on the use of the two approved proteasome inhibitors (bortezomib and carfilzomib), as well as newer agents under development. MM may be treated with autologous hematopoietic stem cell transplantation, and the role of proteasome inhibitors as maintenance therapy after stem cell transplantation is discussed.

**Scientific Abstract:**

Multiple myeloma (MM) is an incurable hematological malignancy characterized by the clonal proliferation of neoplastic plasma cells. The use of proteasome inhibitors in the treatment of MM has led to significant improvements in outcomes. This article reviews data on the use of the two approved proteasome inhibitors (bortezomib and carfilzomib), as well as newer agents under development. Emphasis is placed on the clinical use of proteasome inhibitors, including management of side effects and combination with other agents.

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